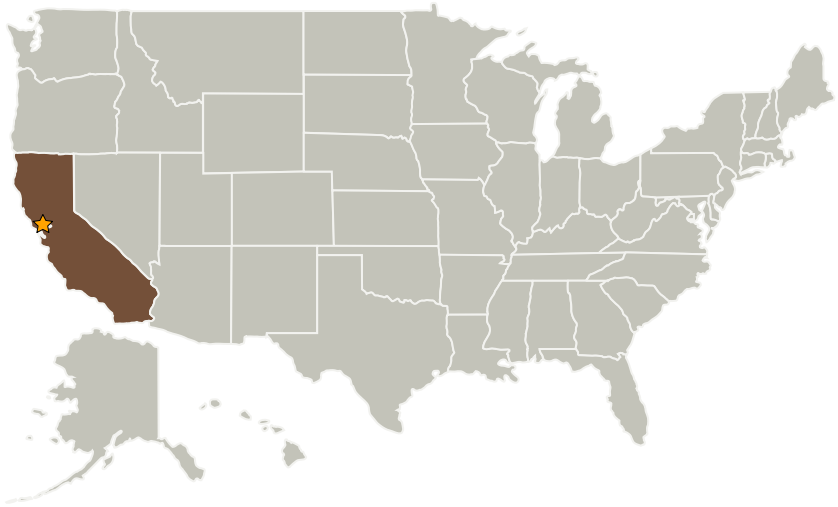
A Constraint-Based Geospatial Data Integration System for Wildfire Management, Phase II

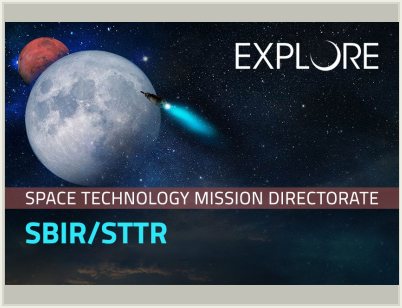
Completed Technology Project (2006 - 2008)

Project Introduction

We propose to implement a constraint-based data integration system for wildfire intelligence, for use during both the pre-planning and event response phases of wildfire fighting. Our system will automatically integrate online, heterogeneous data sources and hyperspectral imagery. Current technology tends to focus mostly on the event response phases and supports only limited types of integration, usually between structured databases. With the emergence of the Internet, there now exists an enormous number of other online information sources that can be combined with local databases and satellite imagery, including NASA MODIS (Moderate Resolution Imaging Spectroradiometer) products, in order to better assist human analysis. In this Phase II proposal, we will implement the constraint-based data integration system for wildfire intelligence that we designed in Phase I. The system will allow users to manage large amounts of data from heterogeneous sources using a single interface, to annotate and extend that data (to add a layer of "knowledge" on top of the data), as well as to quickly identify data updates. The resulting application will complement existing technologies, and serve as a rich, integrated interface that allows one to more easily and quickly plan for, analyze, and react to wildfires.

Primary U.S. Work Locations and Key Partners





A Constraint-Based Geospatial Data Integration System for Wildfire Management, Phase II

Table of Contents

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Ames Research Center (ARC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Small Business Innovation Research/Small Business Tech Transfer

A Constraint-Based Geospatial Data Integration System for Wildfire Management, Phase II

Completed Technology Project (2006 - 2008)

Organizations Performing Work	Role	Type	Location
★Ames Research Center(ARC)	Lead Organization	NASA Center	Moffett Field, California
Fetch Technologies	Supporting Organization	Industry	El Segundo, California

Primary U.S. Work Locations
California

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Technology Areas

Primary:

- TX02 Flight Computing and Avionics
  - TX02.1 Avionics Component Technologies
    - TX02.1.3 High Performance Processors